

107. The strictly nonblocking network of claim 103,
wherein each of said input switches, or each of said output switches, or each of
said middle switches further recursively comprise one or more strictly nonblocking
networks.

5 108. The network of claim 101,
wherein each of said input switches, or each of said output switches, or each of
said middle switches further recursively comprise one or more networks.

109. A network comprising a plurality of input subnetworks, a plurality of middle
subnetworks, and a plurality of output subnetworks, wherein at least one of said input
10 subnetworks, said middle subnetworks and said output subnetworks recursively comprise:

an input stage comprising r_1 input switches and n_1 inlet links for each of said r_1
input switches;

an output stage comprising r_2 output switches and n_2 outlet links for each of said
 r_2 output switches; and

15 a middle stage, said middle stage comprising m middle switches, and each middle
switch comprising at least one link (hereinafter "first internal link") connected to each
input switch for a total of at least r_1 first internal links, each middle switch further
comprising at least one link (hereinafter "second internal link") connected to each output
switch for a total of at least r_2 second internal links, for $x \leq 2$;

20 wherein each multicast connection from an inlet link passes through at most x
middle switches, and said multicast connection further passes to a plurality of outlet links
from said at most x middle switches.